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The Category Squish: Endstation Hauptwort

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In this paper, I will examine a number of phenomena which suggest that the traditional distinction between verbs, adjectives, and nouns--a distinction which is commonly thought of as discrete--should be modified. I will postulate, instead of a fixed, discrete inventory of syntactic categories, a quasi-continuum, which contains at least the categories shown in (1), ordered as shown there.

(1) Verb > Present participle > Perfect participle > Passive participle > Adjective > Preposition(?) > "adjectival noun" (e.g., fun, snap) > Noun

Within the hierarchy of (1)--we might call it a category space--the three underlined categories V, A, and N are something like the cardinal vowels in the vowel space. The distinction between them and the other categories of (1) is not discrete, but "squishy", possibly even quantifiable. I will refer to such a hierarchy as that in (1), which my present research leads me to believe is the most normal situation in semantax (to borrow a term from Georgia Green), as a squish. It might be suggested that the categories, though only squishily distinguishable, should not be arranged linearly, as in (1), but rather in a circular system, such as that diagrammatically suggested in (2a).

(2) a. V

    b. V > A > N
    c. A > N > V
    d. N > V > A

This would be the correct view of things if one could find not only phenomena with the structure suggested in (2b), where properties of A are "between" those of V and N, but also phenomena like (2c), where N is "between" V and A, and (2d), where V is "between" N and A. I would not have any objections to such a system, but the only evidence I have been able to find so far all has the structure of (2b). I will, therefore, for the time being, assume that the linear squish of (1) is to be preferred to the circular one of (2a).

To show that a squish exists, I will cite a number of grammatical processes which work most for verbs, less for adjectives, and least for nouns. That is, to pass from left to right along the squish of (1) is to move in the direction of syntactic inertness, and to move away from syntactic freedom and volatility. To wax metaphorical, proceeding along the hierarchy is like descending into lower and lower temperatures, where the cold freezes up the productivity of syntactic rules, until at last nouns, the absolute zero of this space, are reached.

I will, however, discuss one case for which adjectives are still "between" verbs and nouns, but where the funnel points the other way--where nouns exhibit the property in the highest degree, then adjectives, then verbs. It is at present a mystery to me as to why there should be such differences of "funnel direction". This whole area obviously requires a great deal more work.

To begin, let us examine the phenomenon of Preposition Deletion.

(3) Preposition Deletion (unfronted)
   a. Your odor surprised (to) me/was surprising (to) me.
   b. I talked to Max about sin/talked about sin to Max.
   c. I blamed (on) Harry for the fight/blamed (for) the fight on Harry.

The example in (3a) is typical: for hundreds of related verb-adjective pairs, one finds that some preposition must follow the adjective but cannot follow the verb. Not all verbs require the preposition to delete: the verb talk keeps both prepositions, no matter which order its objects appear in (cf. (3b)), but the verb blame deletes both for and on, whichever of these ends up immediately after the verb (cf. (3c)).

Preposition Deletion, though it is not normal for adjectives, does in fact apply for three of them, as can be seen from the examples in (4): like, near, and opposite.

(4) a. Sarah is like (to) a bumblebee.
   b. The shed is near (to) the barn.
   c. The Coop is opposite (from) the First Gremlin Savings and Loan.

That the first two of these words are nonetheless adjectives is argued for by the fact that they can nominalize (cf. (5)).

(5) a. The likeness of Sarah to a bumblebee is evident.
   b. The nearness of our Fiat to his added to the confusion.

The lack of a parallel for opposite is possibly due to the fact that this word does not cooccur with adverbs of degree (cf. He is very opposite me), while the nominalizations of (5) have
primarily extent readings.

Actually, these three preposition-deleting adjectives form a subsquish themselves, as can be seen by comparing them with "true" adjectives like proud, and "true" prepositions like in.

The subsquish would thus be proud > opposite > near > like > in. A first indication that these words gradually proceed from A to P is the fact that from is reluctant to delete after opposite (in fact, the deletion is impossible in non-locational senses of opposite: His views are opposite *(from) mine), while it is perfectly free with near (cf. (6b)). Finally, with like, deletion is virtually obligatory, except for the archaic like unto.

Note also that prepositional objects of preposed adjectival phrases can be extraposed: (6a) can become (6b).

(6) P Deletion (fronted) and PP Postposing
a. How proud *(of) his yoyo is Mr. Panatela?
b. How proud is Mr. Panatela of his yoyo?
c. How nearly opposite *(from) the Coop is the First Gremlin?
d. How nearly opposite is the Coop from the First Gremlin?
e. How near *(to) the toothpaste are the termites?
f. How near is the toothpaste to the termites?

Systematically, however, Preposition Deletion seems to be made more difficult by this preposing, as can be seen by comparing (4c) with (6c), and (4b) with (6e).

Another property of these five words which leads me to believe that they form a subsquish is their behavior when pied piping to follow the preposed degree adverbial how (cf. (7)).

(7) How X
a. How proud of you is Mr. Greenjeans?
b. How nearly opposite from the Coop is the First Gremlin?
c. How near to the toothpaste are the termites?
d. How like your mother is your sister?
e. How near in the house was the yacht?

It appears that the more adjectival a word is, the more easily it can pied pipe. Proud and near do not differ enough to get above the threshold of this particular criterion, but both are like (cf. (7a, c) vs. (7d)). Since opposite and in are not degree modifying them, this is not so surprising. How nearest questions seem to be worse as a class than how X questions, which would be easier to check their pied pipability if they were degree modifying them with the quantifiable adverb nearly. How nearest reasons seem to be worse as a class than how X questions, because the subsquish is visible in the fact that (7e) is worse than (6d).

Let us leave the problems associated with the care and feeding of this particular subsquish to return to the squish which is the major topic of this paper. The fact that the more adjectival a predicate is, the less Preposition Deletion can apply to it is evident from the contrasts in (3a) and (4). The fact that Preposition Deletion does not apply at all after nouns (cf. (10)) indicates, therefore, that this rule conforms to the general scheme shown in (2b): it applies fairly often for V, to only a few A, and to no N.

(10) a. His love *(for) his bike was apparent.
b. His reliance *(on) methadone is tragic.
A second rule which conforms is Fact Deletion, the rule which sometimes obligatorily (as after know, discover and realize) and sometimes optionally (as in (11a,b,c)) deletes the head noun fact which is postulated in Kiparsky and Kiparsky (1971) to underlie all factive complements.

\[ (11) \text{Fact Deletion} \]

a. I regret (the fact) that you burned the warranty.
b. I am aware (of the fact) that you told more than you know.
c. Tom was surprised (at the fact) that I know Greek.
d. Tom's surprise *(at the fact) that I knew Greek could not be concealed.

As can be seen from the contrast between (11a,b,c) and (11d), while Fact Deletion can apply to most factive verbs, to adjectives?*, but not to any nouns.8

A third piece of evidence for the squish concerns the anaphoric (?) it that appears before that and for-to complements after a small class of verbs, and after only the adjective aware of, (in my speech), but after no nouns (cf. (12)).

\[ (12) \text{It S} \]

a. I hate/(dis)like/love/regret it that he talked so much.
b. I am aware (of it) that we may have to pay more.
c. My regret *(of it) that he talked so much is well-known.

Regardless of whether we assume that this it is underlyingly present and fails to delete in such cases as (12a,b), or that it is sporadic, but never in cases like (12c), it is clear that its distribution is in line with the category squish. Of course, if we make the latter assumption, (12) constitutes a problem for "funnel direction", though not for the claim that this it is underlyingly present and fails to delete in such cases as (12a,b), or that it is sporadic, but never in cases like (12c).

A fifth argument for the squish concerns the distribution of the morpheme -ing. As (13) indicates,

\[ (13) \text{Ing} \]

a. Occurs at the end of all V (in Poss+Ing complements).
b. Occurs at the end of many A (the class of surprising, shocking, breath-taking, awe-inspiring, disgusting, etc.).
c. Occurs at the end of relatively few N (V as sport [sailing, skiing, fishing, etc.] and banking, housing, ranking, drinking, etc.)

d. Occurs at the end of relatively few N which permit raising to become the complement member (either the subject or object) of the next clause up. Thus, roughly speaking, (13a) would derive from (13b), and (13c) from (13d).

\[ (14) a. \text{Oliver seems/turns out/happens/etc. to like walnuts.} 
   b. \text{It seems/turns out/happens that Oliver likes walnuts.} 
   c. \text{We knew/showed/proved/believed/etc. Oliver to like walnuts.} 
   d. \text{We knew/showed/proved/believed/etc. that Oliver liked walnuts.} \]

That Raising applies "more" to V than to A can be seen by comparing (14a) to (15).

\[ (15) a. \text{Oliver is sure/certain/likely/etc. to eat walnuts.} 
   b. \text{It is sure/certain/likely/etc. that Oliver will eat walnuts.} 
   c. *\text{I am afraid/ready/willing/etc. (of) Oliver to eat walnuts.} 
   d. \text{I am afraid/ready/willing/etc. [for Oliver to eat walnuts].} \]

While the embedded subject, Oliver, can be raised to become the superficial subject of such adjectives as those in (15b) (cf. (15a)), there is no adjective which allows Raising to produce (15c), as would have been the case if (15d) could be a derived object, as would have been the case if (15b) could be converted into (15c). This is surprising, in view of the fact that the adjectives in (15d) belong to meaning classes whose verbal members often permit Raising to apply.

In Ross (in preparation), I show that it is a characteristic property of syntactic processes, Raising included, to apply "first" to subjects, and only secondarily to objects. to apply "first" to subjects, and only secondarily to objects.

That is, while there may be languages (Vietnamese?) in which raising into derived subject position (Japanese is an example), there is no language which can evidence for Raising can be found, and while languages can be found in which there is only Raising into derived subject position, there is no language which can evidence for Raising can be found, and while languages can be found in which there is only Raising into derived subject position, there is no language which can evidence for Raising can be found, and while languages can be found in which there is only Raising into derived subject position, there is no language which can evidence for Raising can be found, and while languages can be found in which there is only Raising into derived subject position. While the embedded subject, Oliver, can be raised to become the superficial subject of such adjectives as those in (15b) (cf. (15a)), there is no adjective which allows Raising to produce (15c), as would have been the case if (15d) could be a derived object, as would have been the case if (15b) could be converted into (15c). This is surprising, in view of the fact that the adjectives in (15d) belong to meaning classes whose verbal members often permit Raising to apply.
Recently, however, Andrew Rogers has called to my attention the existence of such useful sentential idioms as the shit hit the fan. The subject NP can be raised, as in (16), to become an element of the clause of a higher V or A.

(16) a. The shit is likely to hit the fan over my peace-through-escalation statement.
   b. We really expected the shit to hit the fan after the disposal started up in reverse.

and as the sentences in (17) show, this is even possible for the noun likelihood, and in some dialects, even for tendency, though only marginally.

(17) a. The likelihood of the shit hitting the fan cannot be gainsaid.
   b. The shit's likelihood of hitting the fan cannot be gainsaid.
   c. The shit's tendency to hit the fan during fire drills is well-known.

What shows that A > N, with respect to Raising, is the fact that there are many more A which undergo Raising than there are N. The same is true, of course, with respect to V and A: far more V undergo Raising than A. Again, it is no accident that the one (or possibly two) nouns which do undergo Raising are related to intransitive predicates. No nouns like belief, proof, and expectation, which would have to raise embedded subjects into derived object position, can undergo raising. My prediction is that such nouns could not come into the language unless adjectives which raised into derived object position also existed.

The seventh argument for the squash is of a rather unusual type, for it deals with the phenomenon of analogy, a phenomenon whose existence we can be sure of, but one so poorly understood that illicit appeals to it are a constant danger, as Paul Kiparsky has often warned. What I will suggest here, then, should be read with a grain of salt.

The matter concerns the distribution of the preposition by. There are several facts which suggest the conclusion that except in locative uses, such as in (18),

(18) I asked her for a little kiss, down by the riverside.

the main use of this preposition is to denote that its object NP has the case function of an agent; that is, that this NP is an animate, volitional initiator of an activity. One piece of evidence that this is so was pointed out to me by Joseph Monds, who observed that most verbs which take directional objects and either agentive or instrumental (?) subjects (cf. (19a) and (19b), respectively),

(19) a. The fighters rolled/slid/moved/etc. into the closet.
   b. The tea-wagon rolled/slid/moved/etc. into the closet.

have only marginally acceptable passives, presumably because of the looseness of the connection between the verb and the object of the directional preposition (cf. (20)).

(20) a. The closet was rolled/slid/moved/etc. into by the fighters.
   b. The closet was rolled/slid/moved/etc. into by the tea-wagon.

Of relevance here is the fact that such marginal passives, non-locative by-phrases are only agents. Similar facts exist even for certain verbs which take direct objects: cf. (21) and (22).

(21) a. The weather made Sam uneasy.
   b. Sam was made uneasy by the weather
   c. Sam was made uneasy by Horace's drunkenness.

(22) a. The bull knocked down the yew.
   b. The yew was knocked down by the bull.
   c. The force of the wind knocked down the yew.

Similarly, though the existence of (23a) might lead one to expect all the sentences of (23b) to be acceptable,

(23) a. Artificial insemination made Sandra pregnant.
   b. Sandra is pregnant by artificial insemination.

in fact, by-phrases with pregnant are limited to agents. However, it appears that by is being analogically extended from its basic use, so that it can appear not only with agents, but also with experiencers (cf. (24a,b)) and, in the case of many of the passive-like adjectives like surprised, even with abstract states of affairs (cf. 24c).

(24) a. Nero is liked by many of the Gauls.
   b. Nero is hated by many of the Gauls.
   c. Nero is believed by many of the Gauls.
It is known by the police that we have a hot-plate. I was surprised/amazed/disgusted/interested/etc. his boorishness.

That by is secondary in (24c) can be seen from the fact that there are no dialects, as far as I know, for which by is preferred over the other prepositions (at, with, in, etc.) which appear with such adjectives, and from the fact that there are dialects in which the substitution of of for these other--I would argue--basic prepositions is not possible, but no dialects in which the opposite is true.

What is of relevance for demonstrating the existence of the category squish is the fact that this rule of analogical extension works best for verbs, worse for adjectives (cf. *(23b) and the blemished sentences of (24c)), and not at all for nouns (cf. (25)).

The eighth argument is due to Mark Aronoff, and is discussed in detail in (Aronoff 1972). I will, therefore, only cite the facts of relevance, which appear in (26).

(26) Preposing: the nounier, the more obligatory preposing is.
   a. *These results have been very much surprising us.
   b. These results have very *(much) surprised us.
   c. We have been very *(much) surprised by these results.
   d. We were very *(much) surprised at your decision.

Basically, what Aronoff has observed is that the further towards N a word is in (1), the more obligatory it is to prepose degree adverbs, and also, the more obligatorily much is deleted. In (27), also due to Aronoff, there is further evidence of the obligatory nature of modifier preposing: since desperate is more adjectival than the participle adored, more is less acceptable after the former than after the latter.

(27) a. Elvis was adored more than appreciated.
   b. Schopenhauer was desperate more than blue.

The nine cases above all manifest the same "funnel direction": nouns are more inert, syntactically, than adjectives and adjectives than verbs. The one case I know of in which the "funnel direction" appears to be reversed concerns the degree to which constituents which appear in remote structure must appear at certain later levels of structure (say, at the output of a cycle). The relevant facts appear in (28).

(28) Constituent deletion: the nounier, the fewer constituents need appear in surface structure.
   a. It is surprising (to me)/surprises *(me) that you know Tim.
   b. The surprise was considerable.
   c. I will attempt to leave, but Bill won’t attempt *(to leave).
   d. Bill wants to leave, but the attempt *(to leave) may tax him too much.

The contrast between the verb surprise and the adjective surprising in this respect is apparent in (28a); while surprise can only lose its object via a chopping rule, the prepositional phrase object of surprising can be deleted. And (28b) shows that even the subject of the noun surprise can be absent. Parallel facts with the verb attempt and the homophonous noun appear in (28c) and (28d), respectively. Thus the generalization that seems to obtain here is that the nounier a word is (i.e., the further to the right it appears in (1)), the more susceptible it will be to having its constituents deleted from it.

While I have no idea as to what could provide an explanation of this reversal of "funnel direction", the cited generalization seems to interact with Aronoff’s observations, as is apparent from (29).

(29) a. I am very ??(much) aware that you are hungry.
   b. Clairvoyants are very *(much) aware.

Aronoff proposes to account for the difference in grammaticality associated with the presence of much in (29) on the basis of the claim that aware is nounier without a complement.
(hence, preposing is more obligatory, and much is less possible).

In summary, while the formal implications of the facts I have cited are anything but clear, the main conclusion—that the distinction between V, A, and N is one of degree, rather than of kind—seems to place high on the validity squish.

Footnotes

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An asterisk inside parentheses means that ungrammaticality will ensue if the parenthesized elements are added to the structure, while an outside asterisk means that the sentence would be ungrammatical without the parenthesized material. Plain parentheses enclose material whose presence or absence does not affect grammaticality.

1. An asterisk inside a parentheses means that ungrammaticality will ensue if the parenthesized elements are added to the structure, while an outside asterisk means that the sentence would be ungrammatical without the parenthesized material. Plain parentheses enclose material whose presence or absence does not affect grammaticality.

2. This observation is due to Paul Postal.

3. The term "pied piping" is explained in Ross (1967). Roughly, it describes syntactic phenomena in which rules which one might expect to affect a smaller constituent instead either can or must affect a larger one. Thus, since questions in English normally begin with just a wh-word (How does the lasagna taste?), we might expect (i) instead of (7a).

(i)

How is Mr. Greenjeans proud of you?

While (i) is a possible question, it is not related to (7a). Pied piping is the mechanism which requires the adjective phrase proud of you to accompany the degree adverbial how when it is fronted.

4. At present, I am baffled by the unexpected badness of (8d), which constitutes counterevidence to the claim that a subsquish exists here.

5. Perhaps it would be helpful here to point out what a noun that could undergo Preposition Deletion would look like. There appears to be a very late and obligatory rule which inserts of between the head noun of an NP and a following NP which does not start with a preposition. Thus the tendency for our cats to interfere with our cooking is manifested by Raising the tendency our cats to interfere with our cooking (8d). Deletion applying to a noun would only be manifested in a change from some other preposition (say, from one which is visible in the adjectival form of the predicate) to of.

In fact, I know of one class of examples which almost appears to meet the above requirements—the nouns given in (i)-(iii) below.

(1) Manny's {hatred} {for/of Sheila love}

(11) Manny's {dislike} {for/??of Sheila liking}

(iii) Manny's hope {for peace/freedom/being nominated/nomination}

What disinclines me to accept these as valid counterexamples to the claim that Preposition Deletion never applies after N are the following facts:

(iv) The only cases involved are "alternations" (if this is the correct term) with for and of.

(v) The predicates involved are obviously all in the same semantic class.

(vi) The choice of preposition seems to be dependent on other factors—the animacy of the object in (i) and (ii), and some rather more elusive semantic property in (iii).

All in all, this constellation of facts suggests that something more systematic is going on than an exceptional deletion of underlying for followed by automatic insertion of of after these nouns.

6. For further discussion of and support for this rule, cf. Ross (in preparation).

7. Though possibly to fewer adjectives than to verbs, which would constitute further evidence for the category squish. I have at present no investigated this possibility.

8. Some speakers inform me that they find both versions of (11d) acceptable. If so, then their dialects shed no light on the category squish, unless they allow Fact Deletion after fewer nouns than after adjectives.

9. This is explicitly claimed in Chomsky (1970). Thus the existence of Raising for nouns, as in (17), is inconsistent with the lexicalist hypothesis, unless Raising is recast in a "generalized" formulation which will work for N, A, and V. Unfortunately, it appears that such reformulations will always
se construable within the lexicalist hypothesis, for the lack of theoretical constraints on "extending" a rule, such as Passive, to nouns renders this theory incapable of explaining why it is that some rules, such as Dative, Particle Movement and Psych Movement, cannot be "extended", while other rules, such as About Phrase Postposing, Equi NP Deletion and Raising, must be.

10. I am unsure exactly what type of actant the subject of (19b) should be considered to be. It does seem to me that it would be a mistake not to distinguish it from animate agents.

11. That these are indeed basic adjectives, and not passives, despite their morphology, can be seen from the fact that they, like other true adjectives, but unlike passives, can take preposed degree modifiers (very surprised/sad/-liked).

12. In particular, how are we to understand the fact that the category squish discussed here seems to make it into the phonology also? As I showed in Ross (1971), there is a conspiracy in English phonology to place primary stress in English nouns further to the left than is possible for adjectives, and further for adjectives than for verbs.

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Speech Act Idioms

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It has been supposed (Ross 1970, Sadock 1969) that the illocutionary force of every sentence is to be traced to the identity of a highest performative which is sometimes abstract. But in most cases, a sentence which is not explicitly performative can have numerous significances and it is not obvious if any or all of these correspond to the illocutionary force of the sentence. For example, sentence (1.) can be taken inter alia as an assertion, warning or prediction. Sentence (2.) can be a question or a request for an answer.

(1.) Nobody will believe that you speak Sogdian.

(2.) What was the name of Paul Revere's horse?

What I wish to do in this paper is develop a set of criteria which is capable of telling whether there is any meaning difference that attaches to such multiple speech act significances. One test for sameness or difference of linguistic meaning has been discussed in the literature (Lakoff 1970). The criteria in this paper are designed to supplement such identity tests and to operate where they fail to.

I will proceed by analogizing the problem of determining linguistically important speech act significance to the general problem of determining linguistically important sense. In this regard, consider sentences (3.) and (4.).

(3.) That was a great idea.

(4.) That was a brilliant idea.

Each of these has numerous significances. Let us restrict our attention to the senses of (3.) indicated by the rough paraphrases (3a.) and (3b.) and those of (4.) indicated by (4a.) and (4b.):

(3a.) That was an excellent idea.

(3b.) That was an important idea.

(4a.) That was an intelligent idea.

(4b.) That was a stupid idea.

One strongly feels that the two senses of (3.) involve